

## ABSTRACT OF THE DISCLOSURE

The memory cell matrix encompasses (a) a plurality of device isolation films running along column direction, (b) first conductive layers arranged along row and column-directions, adjacent groups of the first conductive layers are isolated from each other by the device isolation film disposed between the adjacent groups, (c) lower inter-electrode dielectrics arranged respectively on crests of the corresponding first conductive layers, (d) an upper inter-electrode dielectric arranged on the lower inter-electrode dielectric made of insulating material different from the lower inter-electrode dielectrics, and (e) second conductive layers running along the row-direction, arranged on the upper inter-electrode dielectric.